

Abstract

The inventive photoreactive device has a semiconductor and an oxidation-reduction material. The semiconductor has a conduction band with a potential and being capable of producing electrons under the irradiation of light on the semiconductor. The oxidation-reduction material has a redox potential being positive compared with the potential of the conduction band. The semiconductor supplies electrons into the oxidation-reduction material to reduce it under the irradiation of light for storing the electrons. The stored electrons are discharged from the oxidation-reduction material into a metal material to prevent the corrosion of the metal material.